

LLNL's "UrbanEyes" Aids Search and Rescue

What is it?

UrbanEyes is a tool for first responders to detect and track motion in collapsed structures. It can "see" through wood, concrete, sheetrock, smoke, and debris. Even small movements such as hand waving and respiration can be identified.



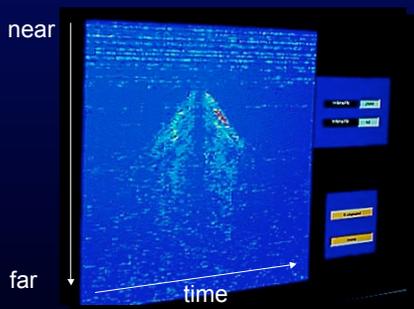
What does it look like?

UrbanEyes consists of one, two, or more small, low power radar sensors and a wireless visual display. Sensors can be carried by hand, mounted on a tripod, or attached to a robotic vehicle.

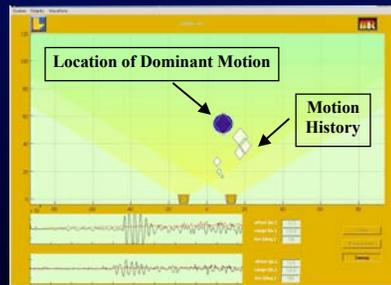


How do you use it?

Simply aim sensors toward the wall or obstruction. Changes in the visual display show motion activity behind the obstruction.



A single sensor tracks motion and location in one dimension



Dual sensors track motion and location in two dimensions

Does it really work?

UrbanEyes has been demonstrated to track motion up to 25 feet through two walls (one 8" concrete). Performance depends on the amount of moisture and metal present. UrbanEyes cannot penetrate through solid metal, however, it is very effective through rubble or walls reinforced with rebar.

LLNL deployed a search team to the World Trade Center on 9/11. Field demonstrations have also been given at NASA Ames Collapsed Structure facility.



Where can I learn more?

UrbanEyes will require better packaging (i.e. integrated display) and ruggedization before it is ready for deployment with first responder teams. LLNL researchers are continuing development of improved sensors and signal processing for detection, tracking, and discrimination algorithms.

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